

BIBLIOGRAPHY

By AMY P. LESHER

(RICHMOND T. ZOCH, in Charge of Library)

RECENT ADDITIONS

The following have been selected from among the titles of publications recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Abbot, C. G., & McCandlish, N. M.

The weekly period in Washington precipitation. Washington. 1939. 4 p. tables. 28 cm. (Smithsonian miscellaneous collections, v. 98, no. 21. Publication 3547.)

Allen, John Robins, & Walker, James Herbert.

Heating and air conditioning. 5th ed. New York & London. 1939. vii, 593 p. illus., diagrs. (part double). 23½ cm. Bibliography at end of most of the chapters.

Amerio, A.

Un nuovo solarografo. [Pisa.] [1939.] p. 53-58. plates. 28 cm. (Estratto dal Nuovo cimento. Anno XVI, n. 2. Febbraio 1939.)

Armington, J. H.

Indiana rainfall and what is ahead. [New York. 1935.] p. 710-718. maps. 23 cm. (Reprinted from Journal of the American water works association, v. 27, no. 6. June 1935.)

Brooks, Charles Franklin, & others.

Climatic maps of North America. Cambridge, Mass. 1936. cover-title, 26 maps on 26 l. 56 x 43½ cm. Loose-leaf. The maps first appeared on a smaller scale in The climates of North America, by R. DeC. Ward, C. F. Brooks, and A. J. Connor in Handbuch der Klimatologie, edited by W. Köppen and R. Geiger, v. 2, pt. J, 1936, for which they were prepared.

Brunt, David.

Meteorology. Cambridge. [1939.] p. 100-120. 26 cm. (Reprinted from Reports on progress in physics, v. 5, The physical society.)

Chaptal, L.

Le climat et le vignoble du Languedoc Méditerranéen. Paris. 1937. 55 . illus., tables. 24½ cm. (Extrait des Annales agronomiques, livraison de septembre-octobre 1937.)

— De l'influence de l'humidité sur la production du vignoble méridional. [Montpellier, France?] [1934?] 3 p. 28 cm.

Clowes, Ernest Seabury.

The hurricane of 1938 on eastern Long Island, written and compiled by Ernest S. Clowes. Bridgehampton, L. I. 1939. 66 p. plates. 23 cm.

Eaton, Elbert Lee.

Weather guide for air pilots. New York. [1939.] ix, 74 p. incl. illus., viii pl. on 4 l., diagr., front. 21 cm.

Fleming, Richard H.

Tables for sigma-T. [New Haven, Conn.?] [1939.] p. 9-11. tables. 23 cm. (Reprint from Journal of marine research, v. 2, no. 1.)

Geslin, M. H.

Les gelées d'avril 1938 et les arbres fruitiers. Alençon. 1938. 8 p. tables. 23 cm. (Extrait du procès-verbal de la séance du 29 juin 1938, Académie d'agriculture de France.)

Gorczyński, Władysław.

A new climatological atlas for the world. Paris. 1936. 2 p. 34½ cm.

Goulden, Cyril Harold.

Methods of statistical analysis. New York & London. 1939. vii, 277 p. incl. tables, diagrs. 23½ cm. Includes references.

Gregg, Willis Ray.

The drought situation. [Washington?] [1934.] 3 p. 30½ cm. (A radio talk, May 14, 1934.) [Mimeographed.]

— Meteorological service for airways in the United States. New York. [1930.] p. 207-223. illus., maps. 28 cm. (Reprinted from The geographical review, v. 20, no. 2, April 1930.)

Gregg, Willis Ray.

Recent advances in weather service in relation to aerial navigation. [Washington, D. C.] 1932. p. 3-8. maps. 32 cm. (Reprinted from August 1932, issue of U. S. Air service.)

— Weather forecasting, with special reference to hydrology and aeronautics. [Washington?] 1937. 11 p. 28 cm.

— Weather service essential for safe and efficient operation of airports. [Washington?] 1929. 10 p. 28 cm. (Presented May 16, 1929, at the First annual airport convention, Cleveland, Ohio.) [Mimeographed.]

— Wherefore of our weather. [St. Louis. 1939.] p. 7-8. photos. 30½ cm. (In East St. Louis today, January 1939.)

Gregg, Willis Ray, & Little, Delbert M.

Meteorological observations by airplanes in the United States. [Leipzig. 1935.] p. 24-26. 26 cm. (Sonderdruck aus "Beiträge zur Physik der freien Atmosphäre" 23 (1935).)

Gunn, Ross.

The electricity of rain and thunderstorms. [Baltimore. 1935.] p. 79-106. tables, diagrs. 28 cm. (Reprinted from Terrestrial magnetism and atmospheric electricity, March 1935.)

Gunzburg.

Le climatisme en Belgique. Rapport présenté au Congrès international du thermalisme et du climatisme, Paris, octobre 1937. Clermont-Fd. [1937?] 12 p. 23 cm.

Hardy, Godfrey Harold, & Wright, E. M.

An introduction to the theory of numbers. Oxford. 1938. xvi, 403 p. diagrs. 25 cm. "A list of books": p. [399]-400.

Harrison, Louis P.

The exploration of the free atmosphere. [New York. 1934.] p. 221-234. illus., diagrs. 24½ cm. (Reprinted from The scientific monthly, v. 39. September 1934.)

Heating and ventilating.

Air conditioning engineers' atlas. Climatic data for the solution of design and operating problems in winter heating and summer cooling throughout the United States, presented both graphically by an original series of specially designed zone maps in colors, and by tables covering the larger cities and adjacent areas. By Clifford Strock, associate editor, C. H. B. Hotchkiss, editor, Heating & ventilating. New York. [1939.] 72 p. incl. illus. (maps), tables. 30½ cm.

Henrickson, Henry Brenton.

Thermometric lag of aircraft thermometers, thermographs, and barographs. (RP 222, in U. S. Bureau of standards. Bureau of standards journal of research. Washington. 1930. 23½ cm. September 1930, v. 5, no. 3, p. 695-709 incl. illus., tables, diagrs. 6 pl.) Running title: Lag of thermometers and barographs. [Washington. 1930.] (Research paper no. 222.)

Heldridge, Desmonde.

Northern lights; illustrated by Edward Shenton. New York. 1939. 240 p. illus. 21½ cm. Map on lining-papers. Account of a voyage in a small sloop from Nova Scotia to the northern coast of Labrador. "First published in July 1939."

Hovde, John E.

The Weather bureau and its operation. Paper delivered July 12, 1937, before the Engineers' club of Mobile. [Mobile? 1937.] 4 p. 28 cm. [Mimeographed.]

Hulbert, E. O.

Observations of a searchlight beam to an altitude of 28 kilometers. [Philadelphia. 1937.] p. 377-382. tables, diagrs. 28 cm. (Reprinted from Journal of the optical society of America. v. 27, November, 1937.)

- Humphreys, W. J.**
The way of the wind. [Philadelphia. 1925.] p. 279-304. illus. 28 cm. (Reprinted from the Journal of the Franklin institute, September 1925.)
- Hunsaker, J. C.**
Transoceanic air travel. [n. p. 1930.] 9 p. 29½ cm. (Preprint.—Paper to be presented at the National aeronautic meeting of the Society of automotive engineers at New York, May 6 and 7, 1930.) [Mimeographed.]
- Iyer, V. Doraiswamy.**
Wind data for wind mills. Delhi. 1935. p. 57-85. 7 plates, tables. 28 cm. (Reprinted from India meteorological department, Scientific notes, v. 6, no. 63.)
- Japan. Saghalein central experiment station.**
Annual report of the meteorological and phenological observations in the Horo experimental forest, 1935 Konuma. 1936. 55 p. 27 cm. [In Japanese and English.]
- Jaumotte, J.**
La photographie des nuages par ballon-sonde. (Analyse du sondage du 10 juin 1933.) Bruxelles. 1933. p. 1096-1106. illus., tab. 25½ cm. (Académie royale de Belgique. Bulletin de la Classe des sciences. 5^e série. v. 19, no. 10-11. 1933. Extrait.)
- Structure thermique de la stratosphère jusqu'à 30 km. Leipzig. 1938. p. 403-422. illus. 22½ cm. (Extrait de "Gerlands Beiträge zur Geophysik", v. 50, 1937.)
- Sur la variation du vent en altitude. Bruxelles. 1936. p. 820-834. 25½ cm. (Académie royale de Belgique. Bulletin de la Classe des sciences. 5^e série. v. 22, no. 7. 1936. Extrait.)
- Jeans, Sir James Hopwood.**
An elementary treatise on the theoretical mechanics. Boston & New York. [1907.] viii, 364 p. diagrs. 21½ cm.
- Jurva, Risto.**
Über die Eisverhältnisse des Baltischen Meeres an den Küsten Finnlands, nebst einem Atlas. Helsinki. 1937. fold. map, tables, diagrs. 25½ cm.
- Kipp, P. J., & Zonen.**
Actinometer for measurement of radiation from sun and sky and also of effective temperature radiation. [Delft. 1935.] 4 p. illus. 28 cm.
- Solarimeters and pyrheliometers. [Delft. 1935.] 4 p. illus. 28 cm.
- Kiroff, Kiro T.**
Météorologie agricole. I. Partie: Importance, tâches, méthodes; observations phénologiques. Sofia. 1936. 47 p. map (fold.), tables. 25 cm. (At head of title: Ministère de l'agriculture et des domaines. no. 64.) [Title page and table of contents in Bulgarian and French. Résumé in French.]
- Kochanowski, Adam.**
Sur la thermique substratosphérique. [Lwów. 1937.] 3 p. illus, 30½ cm. (Reprinted from "Lwowskiego Czasopisma Lotniczego", Nr. 11 z. r. 1937.)
- Kuethé, Arnold M.**
The scale of the boundary layer in the atmosphere. [New York. 1935.] p. 115-117. illus. 28 cm. (Reprinted from Journal of the aeronautical sciences, v. 2. May, 1935.)
- Lettau, Heinz.**
Lotschwankungen unter dem Einfluss von Gezeitekräften und atmosphärischen Kräften. (Analyse von Registrierungen des Horizontaldoppelpendels.) [Leipzig. 1937.] p. 250-269. illus., tables. 22½ cm. (Sonderdruck aus "Gerlands Beiträge zur Geophysik". Bd. 51, Heft 2/3.)
- Machetanz, H.**
Zur Klimatologie des tropischen Hochlandes von Kenya (Ostafrika). [Braunschweig. 1937.] p. 66-72. tables, diagrs. 30½ cm. (Sonderdruck aus Bioklimatische Beiblätter, Heft 2, 1937.)
- Mercanton, P. L.**
Um Pluviomètre aérodynamiquement neutre. [Basileae. 1937?] p. 553-555. 23 cm. (Tirage à part de Helvetica physica acta, volumen XI fasciculus septimus.)
- Meteorological conference for the Southwest Pacific.**
Minutes of meetings held at Wellington, New Zealand, November 29th to December 3d, 1937. Leyde. 1939. 92 p. tables (1 fold.) 24½ cm. (International meteorological organization. Secretariat. Publication no. 42.)
- Mörikofer, Walter, & Thams, Chr.**
Erfahrungen mit dem Bimetallaktinographen Fuess-Robitzsch. Braunschweig. 1937. p. 360-371. illus., tables, diagrs. 30½ cm. (Aus dem Physikalisch-meteorologischen Observatorium Davos.) [Reprinted from Meteorologische Zeitschrift, October, 1937.]
- Obst, E.**
Das Problem der Klimaverschlechterung in Südafrika. Berlin. [1936.] p. 1041-1045. 28 cm. (Sonderdruck auf Europäische Revue, XII. Jahrgang, Dezember 1936.)
- Page, Richard T.**
Note on a new ocular micrometer for use in dust counting. [Washington. 1937.] p. 1315-1316. 28 cm. (From U. S. Treasury department. Public health reports. v. 52, no. 38. September 17, 1937.)
- Pagliuca, S.**
Icing measurements on Mount Washington. [New York. 1937.] p. 399-402. illus. 30½ cm. (Reprinted from Journal of the aeronautical sciences, v. 4, no. 10. August, 1937.)
- Pekeris, Chaim L.**
The balance of vorticity in parallel shear motion. p. 258-259. 30½ cm. [New York. 1937.] (Reprinted from the Journal of the aeronautical sciences, v. 4, no. 6. April 1937.)
- Penndorf, R.**
Anomale Schallausbreitung und Ozonosphäre. [Braunschweig. 1936.] p. 315-321. diagrs. 28 cm. (Sonderdruck aus der Zeitschr. für Geophysik, Jahrgang 12, Heft 7/8, 1936.)
- Peppler, Albert.**
Messungen der ultravioletten Erythemstrahlung (UVE.) mit dem medizinischen Dosimeter in der Rheinebene (120 m) und im Schwarzwald (720 m). Berlin. [1937.] p. 2-13. tables, diagrs. 28 cm. (Reprint from Zeitschrift für angewandte Meteorologie. 54. Jahrgang. 1937.)
- Petterssen, Sverre.**
Das Fanarøken-Observatorium (2080 m). [Wien. 1934.] [4] p. illus. 30½ cm. (Sonderabdruck aus dem XLIII. Jahresbericht des Sonnbllick-Vereines, 1934.)
- On the causes and the forecasting of the California fog. [New York. 1936.] p. 305-309. illus., tables. 30½ cm. (Reprinted from Journal of the aeronautical sciences, v. 3, no. 9, July 1936.)
- Pierce, L. T.**
The fire-weather service for the southern Appalachians region. [Asheville, N. C. n. d.] [5] p. 28 cm. [Mimeographed.]
- Pollak, Leo Wenzel, & Kaiser, Franz.**
Neue Anwendungen des Lochkartenverfahrens in der Geophysik. Berlin. 1934. p. 574-584. tables. 30½ cm. (Hollerith Nachrichten, Heft 44, Dezember 1934.)
- Riemerschmid, Gertrud.**
Messungen des Sonnenlichtes. [Berlin. 1936.] 4 p. 30½ cm. (Sonderdruck aus Zeitschrift der Reichsfachschule, Technische Assistentinnen. Jahrgang 3, Januar 1936.)
- Rotch, A. Lawrence.**
On the first observations with registration balloons in America. [Boston. 1905.] p. 347-350. table. 28 cm. (Reprinted from Proceedings of the American academy of arts and sciences, v. 41, no. 14. December 1905.)
- Rouch, J.**
La météorologie dans l'Iliade. Athènes. 1934. [10] p. tables. 30½ cm. (Extrait des Annales de l'Observatoire national d'Athènes, Tome XII.)
- Schell, Irving I.**
On the diurnal variation of wind velocity. [Leipzig. 1936.] p. 60-72. tables, diagrs. 28 cm. (Reprinted from "Gerlands Beiträge zur Geophysik," v. 47.)
- Schlumpf, Albert.**
Zur Mechanik der Staublawine. [Bern. 1937.] p. 85-94. illus. 28 cm. (Sonderabdruck aus "Die Alpen," 1937. Heft 3.)
- Schmauss, August.**
Kalendermässige Bindungen im Wettergeschehen. p. 159-160. 29½ cm. (Photostated from Forschungen und Fortschritte, 12 Jahrgang, Nr. 12, 20. April 1936.)
- Schmid, Friedrich.**
Symétries et asymétries de la lumière pourprée. Neuchâtel, Suisse. [1937.] p. 175-186. illus. 28 cm. (Extrait des Annales Guébhard-Séverine, 13^{me} année, 1937.)

Seilkopf, H.

Die meteorologischen Probleme des transatlantischen Luftverkehrs. [n. p. 1936.] 5 p. 30½ cm. (Sonderdruck aus dem Jahrbuch der Wissenschaftlichen Gesellschaft für Luftfahrt E. V. (WGL) 1935/36.)

Sherman, K. L.

Atmospheric electricity at the College-Fairbanks polar year station. [Baltimore. 1937.] p. 371-390. illus., tables, diagrs. 28 cm. (From Terrestrial magnetism and atmospheric electricity, December 1937.)

Smith, Newbern.

Extension of normal-incidence ionosphere measurements to oblique-incidence radio transmission. [Washington. 1937.] p. 89-94. diagrs. 28 cm. (U. S. National bureau of standards, RP1013. From Journal of research of the National bureau of standards, v. 19, July 1937.)

Sreenivasaiah, B. N. & Sur, N. K.

The thermodynamics of duststorms. [Bangalore. 1937.] p. 209-212. diagrs. 28 cm. (Reprinted from Current science, v. 6, no. 5.)

Tchirvinsky, P.

La glace à structure filamenteuse columnaire. [Leningrad.] 1936. p. 878-880. illus. 30½ cm. (Reprint from Izvestia de la Société russe de géographie. v. 68, no. 6.)

Trinkler, Emil, & Terra, H. de.

[Extracts from] Geographische Forschungen im westlichen Zentralasien und Karakorum-Himalaya. Berlin. 1932. p. 123-133; 67-73. tables, diagr. 28½ cm. (Photostated from Wissenschaftliche Ergebnisse der Dr. Trinklerschen Zentralasien-Expedition, bearbeitet von Dr. E. Trinkler und Dr. H. de Terra. Band 1.)

V., S.

La température de l'atmosphère supérieure. [Paris. 1935.] p. 761. 30½ cm. (Photostated from Revue scientifique, 73^e année, num. 23, Dec. 14, 1935.)

Visher, Stephen S.

Indiana regional contrasts in temperature and precipitation, with special attention to the length of the growing season and to non-average temperatures and rainfalls. [Brookville, Ind. 1936.] p. 183-204. maps. 23 cm. (Reprinted from Proceedings of the Indiana academy of science, v. 45, 1936.)

— Regional contrasts in erosion in Indiana, with especial attention to the climatic factor in causation. New York. 1937. p. 897-929. maps, tables. 25 cm. (Bulletin of the Geological society of America, v. 48. July 1, 1937.)

Wagner, A.

Zur Theorie des täglichen Ganges der Windverhältnisse. [Wien. 1936.] p. 25-32. tables. 24½ cm. (Photostated from Anzeiger der Akademie der Wissenschaften in Wien. Mathematisch-naturwissenschaftliche Klasse. Jahrgang 1936, Nr. 4.)

Walter, B.

Von wo ab steuert der Blitz auf seine Einschlagstelle los? [Leipzig. 1937.] p. 105-109. illus. 30½ cm. (Sonderdruck aus "Zeitschrift für technische Physik." Achtzehnter Jahrgang, Nr. 4. 1937.)

Wild, Heinrich.

Verbesserte Methoden zur Temperatur-Compensation des Wagbarometers. [n. p. 1871.] p. 453-474. plate (fold.) 24½ cm. (From Mélanges physiques et chimiques, v. 8.)

Woelfle, Max.

Windschutzanlagen. Berlin. 1938. p. 52-86. illus., tables. 25½ cm. (Sonderabdruck aus Forstwissenschaftliches centralblatt. 1. Februar 1938. 60. Jahrgang, Heft 3.)

SOLAR OBSERVATIONS

[Meteorological Research Division, EDGAR W. WOOLARD in charge]

SOLAR RADIATION OBSERVATIONS, OCTOBER 1939

By CHARLES M. LENNAHAN

Measurements of solar radiant energy received at the surface of the earth are made at nine stations maintained by the Weather Bureau, and at ten cooperating stations maintained by other institutions. The intensity of the total radiation from sun and sky on a horizontal surface is continuously recorded (from sunrise to sunset) at all these stations by self-registering instruments; pyrheliometric measurements of the intensity of direct solar radiation at normal incidence are made at frequent intervals on clear days at three Weather Bureau stations (Washington, D. C., Madison, Wis., Lincoln, Nebr.) and at the Blue Hill Observatory at Harvard University. Occasional observations of sky polarization are taken at the Weather Bureau stations at Washington and Madison.

The geographic coordinates of the stations, and descriptions of the instrumental equipment, station exposures, and methods of observation, together with summaries of the data, obtained up to the end of 1936, will be found in the MONTHLY WEATHER REVIEW, December 1937, pp. 415 to 441; further descriptions of instruments and methods are given in Weather Bureau Circular Q.

Table 1 contains the measurements of the intensity of direct solar radiation at normal incidence, with means and their departures from normal (means based on less than 3 values are in parentheses). At Madison and Lincoln the observations are made with the Marvin pyrheliometer; at Washington and Blue Hill they are obtained with a record-

ing thermopile, checked by observations with a Marvin pyrheliometer at Washington and with a Smithsonian silver disk pyrheliometer at Blue Hill. The table also gives vapor pressures at 7:30 a. m. and at 1:30 p. m. (75th meridian time).

Table 2 contains the average amounts of radiation received daily on a horizontal surface from both sun and sky during each week, then departures from normal and the accumulated departures since the beginning of the year. The values at most of the stations are obtained from the records of the Eppley pyrheliometer recording on either a microammeter or a potentiometer.

Direct radiation intensities averaged below normal at Washington, Lincoln, Madison, and Blue Hill.

Total solar and sky radiation was above normal at all stations except Friday Harbor and Newport. Data for five of the regular reporting stations are not included because for various reasons the data were not available. These data will be published as soon as they are available.

Polarization observations made at Madison, Wis., during the past 4 months are summarized as follows:

Seven observations in July averaged 57.8 with a maximum of 62 on the 31st, both of which were below normal. Eight observations in August averaged 61.0, which was above normal; the maximum of 68 on the 24th was just normal. Six observations in September averaged 59.2 with a maximum of 69 on the 5th, both of which were below normal. Four observations in October averaged 68.5, which was above normal; the maximum of 70 on the 23rd was normal.